Claim Amendment:

1. (Previously presented) Method for radio communication between a mobile station and a cellular-network infrastructure including a set of base stations, wherein the mobile station includes at least two receiving units for processing, in macrodiversity mode, respective radio signals sent out by at least two separate base stations of said set of base stations and carrying identical information, and wherein, when specified conditions are fulfilled, the macrodiversity mode is at least partially dispensed with for the mobile station, one or more base stations of said set of base stations is or are controlled to send to the mobile station at least two radio signals carrying different sets of information, and the mobile station is controlled to have its receiving units process these radio signals so as to receive said different sets of information.

2. (Previously presented) Method according to Claim 1, wherein, when at least some of the specified conditions are fulfilled, said radio signals carrying said different sets of information are sent out by a single base station.

3. (Previously presented) Method according to Claim 2, wherein said base station, in the case of the down communication direction, operates with multiple communications channels defined by channel-separation codes selected from a set of codes with variable spreading factor in a defined range, the channel-separation codes being selected with spreading factors depending on information throughputs required respectively on the channels, with an overall constraint of orthogonality between the codes employed at every instant by the base station.

4. (Currently amended) Method according to Claim 3, wherein, in ~~said cases~~case where a communication is established from said base station to the mobile station with an information

through put corresponding to a first spreading factor lying within said defined range and such that it is not possible to select a new code while obeying the overall orthogonality constraining, multiple channels are formed, defined respectively by codes obeying the overall orthogonality constraint and the respective spreading factors of which are greater than the first spreading factor, the information throughput of the communication being distributed between said multiple channels which transport respective radio signals each processed by at least one of the receiving units of the mobile station.

5. (Previously presented) Method according to Claim 3 or 4, wherein the spreading factors of the codes of the set are of the form 2^{L-k}, L being a positive integer and k an integer variable such that $0 \leq k \leq L$, a channel-separation code of the form 2^{L-k} corresponding to an information throughput of $2^{k-L}.D$, where D is a defined maximum code throughput, and in which, in cases where a communication is established from the base station to the mobile station requiring an information throughput equal to $\alpha.D$ with $2^{-m-1} < \alpha \leq 2^{-m} - 2^{-L}$ and α is a real number m is an integer such that $0 \leq m < L-1$, at least two codes of the set are selected obeying the overall orthogonality constraint in such a way that the sum of the inverses of the spreading factors of the codes selected is less than 2^{-m}, so as to form multiple channels defined respectively by the selected codes, the information throughput of the communication being distributed between these multiple channels which transport respective radio signals each processed by at least one of the receiving units of the mobile station.

6. (Previously presented) Method according to Claim 5, wherein, in said cases where a communication is established from the base station to the mobile station requiring said information throughput equal to $\alpha.D$, the integer $\lceil \alpha.2^L \rceil$ equal to or immediately greater than $\alpha.2^L$

being of the form $\lceil \alpha.2^L \rceil = \sum_{i=0}^{L-1} a_i \bullet 2^i$, where the a_i are each equal to 0 or to 1, $2^{n(i)}$ codes with spreading factor $2^{L-i+n(i)}$ are selected for each value of I such that $a_i = 1$, the n(i) being integers such that $0 \leq n(i) \leq i$.

7. (Previously presented) Method according to Claim 6, wherein the numbers n(i) are chosen in such a way as to minimize the number $\sum_{\substack{i=0 \\ a_i=1}}^{L-1} 2^{n(i)}$.

8. (Previously presented) Method accounting to Claim 1, wherein, when at least some of the specified conditions are fulfilled, said radio signals carrying different sets of information are sent out respectively by at least first and second separate base stations of said set of base stations.

9. (Previously presented) Method according to Claim 8, wherein said radio signals carrying different sets of information are sent out respectively by at least first and second separate base stations of said set of base stations after the following three conditions have been fulfilled:

- the mobile station is currently operating in macrodiversity mode in order to process radio signals sent out respectively by the first and second separate base stations and carrying identical information;
- channel-allocation resources of the first base station are saturated; and
- an increase in the quantity of information to be transmitted to the mobile station is required.

10. (Currently amended) Control equipment of a cellular-radio communications network comprising a set of base stations and of mobile stations, at least some of the mobile stations including at least two receiving units in order, in macrodiversity mode, to process respective radio signals sent out by at least two separate base stations of said set of base stations and carrying identical information, the control equipment comprising means for control of at least one base station for allocating, to the at least one base station, radio communications resources for a down communications direction and for causing corresponding signaling messages to be sent to mobile stations served by ~~this~~the at least one base station, wherein said means for control are configured to cause a mobile station at least partially to dispense with the macrodiversity mode when the specified conditions are fulfilled, while causing one or more of the base stations to send out, to the mobile station, at least two radio signals carrying different sets of information, and while causing the mobile station to have its receiving units process said at least two radio signals so as to receive said different sets of information.

11. (Currently amended) Equipment according to Claim 10, wherein, when at least some of the specified conditions are fulfilled, the control means are configured to cause a single base station to send out said radio signals carrying said different sets of information.

12. (Previously presented) Control equipment according to Claim 11, wherein said base station, in the case of the down communication direction, operates with multiple communications channels defined by channel-separation codes selected by the control means from a set of codes with variable spreading factor in a defined range, the channel-separation codes being selected with spreading factors depending on information throughputs required respectively on the

channels, with an overall constraint of orthogonality between the codes employed at every instant by the base station.

13. (Previously presented) Control equipment according to Claim 12, wherein, in cases where a communication is established from said base station to the mobile station with an information throughput corresponding to a first spreading factor included in said defined range and such that it is not possible to select a new code while obeying the overall orthogonality constraint, the control means are configured to form multiple channels, defined respectively by codes obeying the overall orthogonality constraint and the respective spreading factors of which are greater than the first spreading factor, the information throughput of the communication being distributed between said multiple channels which transport respective radio signals each processed by at least one of the receiving units of the mobile station.

14. (Currently amended) Control equipment according to Claim 12 or 13, wherein the spreading factors of the codes of the set are of the form 2^{L-k}, L being a positive integer and k an integer variable such that $0 \leq k \leq L$, a channel-separation code of the form 2^{L-k} corresponding to an information throughput of $2^{k-1}.D$, where D is a defined maximum code throughput, and in which, in cases where a communication is established from the base station to the mobile station requiring an information throughput equal to $\alpha.D$ with $2^{-m-1} < \alpha \leq 2^{-m} - 2^{-L}$ and α is a real number m an integer such that $0 \leq m \leq L-1$, the control means ~~(16)~~ are configured to select at least two codes of the set obeying the overall orthogonality constraint in such a way that the sum of the inverses of the spreading factors of the codes selected is less than 2^{-m}, so as to form multiple channels defined respectively by the selected codes, the information throughput of the communication

being distributed between these multiple channels which transport radio signals each processed by at least one of the receiving units of the mobile station.

15. (Previously presented) Equipment according to Claim 14, wherein, in said cases where a communication is established from the base station to the mobile station requiring said information throughput equal to $\alpha.D$, the integer $\lceil \alpha.2^L \rceil$ equal to or immediately greater than $\alpha.2^L$ being of the form $\lceil \alpha.2^L \rceil = \sum_{i=0}^{L-1} a_i \bullet 2^i$, where the a_i are each equal to 0 or to 1, the control means are configured to select $2^{n(i)}$ codes with spreading factor $2^{L-i+n(i)}$ for each value if i such that a_i – 1, the n(i) being integers such that $0 \leq n(i) \leq i$.

16. (Previously presented) Equipment according to Claim 15, wherein the numbers n(i) are chosen by the control means in such a way as to minimize the number $\sum_{\substack{i=0 \\ a_i=1}}^{L-1} 2^{n(i)}$.

17. (Previously presented) Equipment according to Claim 10, wherein, when at least some of the specified conditions are fulfilled, the control means are configured to cause at least two separate base stations to send out said radio signals carrying different sets of information.

18. (Previously presented) Equipment according to Claim 17, wherein the control means are configures to cause at least first and second separate base stations to send out respectively the said radio signals carrying different sets of information after the following three conditions have been fulfilled:

- the mobile station is currently operating in macrodiversity mode in order to process radio signals sent out respectively by the first and second base stations and carrying identical information;

- channel-allocation resources of the first base station are saturated; and

- an increase in the quantity of information to be transmitted to the mobile station is required.

19. (Previously presented) Mobile radio-communications station with a cellular network the infrastructure of the cellular network includes a set of base stations, comprising at least two receiving units for processing respective radio signals, means for allocating radio resources to the at least two receiving units in response to signaling messages received from the infrastructure of the cellular network, and combining means for combining outputs of the receiving units in a macrodiversity mode in which at least some of said radio signals are sent out by at least two separate base stations of said set of base stations and are carrying identical information, wherein, in response to certain signaling messages, the allocation means are configured to at last partially dispense with the macrodiversity mode, deactivating the combining means, the receiving units then processing at last two radio signals carrying different sets of information.